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Optimism Growing

Evident Progress In Fly Eradication Work Reassuring to Growers and Packers

"The Lord never seems to afflict the inhabitants of the earth with severe trials, except for their benefit.

"The appearance of the Mediterranean fruit fly in Florida was a shock to the people of the State, but bad as this trouble some insect seems to be, still we may take consolation in the fact that blessings often come in disguise. The appearance of the cotton boll weevil in our Southern States caused general anxiety and worry, not only to planters but all residents of the cotton States, whose livelihood so much depends on the cotton crop. Cotton is still grown quite as largely as ever in spite of the weevil, which planters have learned to contend with by better cultivation methods. In one section a statue was erected to the boll weevil as a benefactor to the Southern people, compelling better farming and more diversified crops.

"The fruit fly in Florida may force better, cleaner farming practice, as that seems the way to control it. And in the end it may prove a blessing instead of a catastrophe.

"Direct information from the Florida fruit growers and planters is that they propose to fight and conquer."

The foregoing editorial from the New York American is expressive of a section of the outside viewpoint of Florida's situation, and the belief held concerning Florida's ability to

wage a winning fight against the pest.

Recently developments within the infested sections of Florida are warranting an increasing optimism upon the part of Florida citrus growers and the business of the state.

The first "zone 1" to be lifted in Florida's fight against the Mediterranean fruit fly came July 9 during the State Plant Board's session with the rescinding of original orders which had resulted in designating the area surrounding an infestation found at Boone Park in the City of Jacksonville as zone 1, or an infested zone. The order likewise rescinded zone 2, or the protective zone which automatically surrounds an infested zone for nine miles away in every direction. The Jacksonville area thus was restored to its original status. Action of the State Plant Board was taken with the consent of the Plant Quarantine and Control Administration, United States Department of Agriculture. It was due to the Jacksonville area having been cleaned of all infestation of flies in any form in the belief of scientific observers who have had it under close scrutiny for some time.

The original infestation within Jacksonville was very light. It came about through the shipment of some infested citrus fruits to a resident of Jacksonville from an infested area in Orange County before the quarantine restrictions had been clamped down. Forces from the joint fly eradication headquarters, however, were promptly put upon the job and certain residential areas in Jacksonville were quickly despoiled of all citrus

fruits, guavas, peaches and other host plants in a stern effort to stamp out the infestation and prevent possible spread of the fly northward.

For other infested areas, where the fly population was already large before the eradication forces could get into full swing there is, however, apparently no hope for any early lifting of the quarantine restrictions. Infested groves are being sprayed with the bait spray regularly every ten days and while the fly population already has been tremendously diminished there are no signs of letting up in the activities against it.

Announcement of probable measures for compensating growers whose crops may be destroyed, according to dispatches from Washington, contemplates possible compensation only for future crop destruction. In some circles this is held to indicate intention to continue well into the future the campaign to starve the fly in those areas which originally were heavily infested or in which failure of citizens to cooperate in removal of the various host plants permits flies to exist through the designated non-host period of the summer months.

Vying among themselves for effectiveness in bait spraying employees of the fly eradication forces recently have set some interesting records. A Polk County crew near Haines City recently turned in a record of 163 acres sprayed between daylight and dark with a single outfit. In Lake County two tractor-sprayers operating together covered a total of 346 acres in one day. In Orange County

five tractor-sprayers operating simultaneously turned in an even 700 acres as a day's work.

In the operation of the tractor-sprayers the tractor is thrown into high gear and a large number of trees sprayed every hour. Application of the bait spray to the trees is very different from full coverage spraying citrus growers are accustomed to perform for insect control. Only a little of the bait spray is shot into each tree, the aim being to set the table for the flies, so to speak. In full coverage spraying it is necessary to cover thoroughly all the leaves and tender wood in order to be effective. It is therefore possible to make much greater speed with the application of the bait spray than is possible in coverage spraying. In fact fifteen to twenty acres a day is average good work for the ordinary sprayer and a pair of mules on full coverage spraying.

Figures compiled show that the bait spraying is not only an extremely speedy operation but a very economical one. Figured upon the same basis that growers must figure, that is including costs of all materials, transportation, labor and the investment, even though the sprayers in most cases are loaned by the federal government, the cost for applying the bait spray including overhead is approximately fifty-six cents per acre.

Use of the knapsack sprayers, which are employed generally on city lots and in smaller citrus properties, has proven to be more economical, figuring down to approximately thirty-eight cents per acre with all items of cost included.

The fly eradication forces are now equipped and prepared to spray 10,000 acres daily. This will enable the application of the bait spray within the present infested zones at intervals not greater than ten days apart throughout the summer months.

Many fruits, other than citrus fruits, are increasingly providing place for the operations of the Mediterranean fruit fly. An average of ten to twelve newly infested properties now is being listed daily at fly eradication headquarters. The bulk of these continue to be found inside what may be called the previously ascertained area of infestation. It is the occasional exception which here and there appears outside that area, and has resulted from time to time in enlarging the red ground which indicates the quarantine area on the big headquarters map.

Each day's discoveries are carefully listed and charted. It is study of this daily list which establishes how the fruit fly is turning its atten-

tion from citrus fruits to other things. For instance, the list of newly infested properties of one day recently numbered ten items. Four of this day's items show the infestations to have been found in peaches. Recently these same lists have shown a large percentage of infestation in such things as peaches, surinam cherries, maypops, sapotas, guavas, pears, calamondins, pawpaws, and even honey-dew melons.

It becomes evident therefore that the fly is not dependent upon the fifty-one varieties of citrus fruits which have been found infested since the work of eradication began in Florida. On the contrary, the fly not only does not discriminate against many of these non-citrus hosts, but seems to give them preference. It is pointed out at Orlando headquarters that some of the most important jumps of the quarantine boundaries recently have been due to infestations found in non-citrus hosts.

This is held to emphasize the necessity for carefully maintaining the host free period; and that part of Dr. Wilmon Newell's recent appeal to the citizens of Florida, in which he said:

"Not a guava, not a peach, not a mulberry, not a surinam cherry, not any one of all the non-host fruits and vegetables must be left within the reach of the fly this summer, if we are to obtain a maximum result from the eradication efforts during this period."

With the arrival of midnight on Saturday, June 15th, the citrus trees of Florida were supposed to be cleaned of all fruit, excepting immature oranges and grapefruit which will constitute next season's crop.

Shipping of citrus fruits from zone 3 closed at that time and zone 3 citrus growers were presumed then to have their trees entirely clean of all fruit which may act as host to the fly. Not only was every citrus tree in the state of Florida supposed to be clean at that time but citrus fruit upon the ground should have been gathered and destroyed, or the owners of such citrus properties will be subject to prosecution.

In those areas designated as zones 2 not only citrus fruits but all other host fruits and host vegetables were to be removed. Owners of commercial fruit and vegetable properties in zones 2 who fail to observe the host-free period have been told quite clearly that they will not be given permits to make any shipments next season, where their non-observance has been reported. Inasmuch as it is stated all shipments next season from zones 2 will be allowed only

upon permits, refusal to issue a permit for the movement of fruit from any particular property will effectually bar products from that property from being sold.

Properties located in zones 1, the infested areas, are in the hands of the joint forces of the Plant Quarantine and Control Administration, United States Department of Agriculture and the State Plant Board. They have been cleaned by those forces and are being sprayed at regular intervals with the bait spray, and otherwise are controlled by the federal and state men with the cooperation of the owners.

In spite of loss of fruit through the two storms and by the quarantine restrictions, involving destruction by the fly eradication forces of approximately three-quarters of a million boxes of citrus fruits, closing of the last packing houses on Saturday, June 15th showed an estimated total of more than 22,800,000 boxes of oranges, grapefruit and tangerines shipped from Florida by rail and boat this season. These figures do not include express shipments nor fruit which was hauled into southern states by truck. The highest previous record was for the crop season of 1923-24, during which season, United States Department of Agriculture figures show, slightly less than 20,000,000 of boxes of citrus fruits moved by rail and boat out of Florida.

What was said to be "the best news to Florida farmers and growers since the imposition of the plant quarantine" came recently from Orlando headquarters to the effect that cowpeas, listed as host plants to the Mediterranean fruit fly since the beginning of the eradication effort, have as the result of exhaustive experiments been transferred to the list of non-host plants.

The change was made, it was said, only as the result of exhaustive experiments by the corps of scientific workers. Results of the long series of scientific tests involving the fly and cowpeas are said to be definitely conclusive of the fact that Mediterranean fruit flies will not infest this extremely valuable Florida product.

In the beginning of the eradication work cowpeas were listed as host plants because in the experience in other countries with the Mediterranean fly peas and beans proved to be hosts. Velvet beans were early placed upon the non-host list because they are not true beans even though popularly called such; and it has been ascertained that they are not affected by the fruit fly. Then it was discovered that English peas

were immune from fruit fly attacks.

Practical Florida men connected with the eradication forces were responsible for initiating careful tests of cowpeas. It was held that because of their value for human food, as forage and hay for livestock and as green manure crops throughout the state cowpeas were so valuable to Florida farmers that there was justification for testing out most thoroughly the attraction of cowpeas for the fruit fly.

The tests which were inaugurated some time ago have just been brought to a conclusion with verdict from the scientists that the types of cowpeas customarily grown in Florida are not hosts to the fly. Application immediately was made to the federal authorities at Washington to permit the transfer of cowpeas to the non-host list; and this was granted.

Spread of the infested area over the northern two-thirds of Polk County, a good portion of Hillsborough County, including the city of Tampa, and over practically the whole of Pinellas County was the outstanding feature of June developments in the fly campaign. Further enlargement of the area north and west involving a considerable portion of Marion County and part of Levy County likewise were significant.

However, in spite of a very considerable number of scout inspections southward by some of the best men of the fly eradication forces there were during June no discoveries of infestations southward of a line across the state from about St. Petersburg on the west coast to slightly north of Melbourne on the east coast.

In best posted citrus circles this is felt to be highly significant, though with the continued ripening of non-citrus host fruits in this area there can, of course, be no absolute certainty of later failure to find infestations in the southern portion of the citrus belt, except where radical measures upon the part of citizens have resulted in an entire clean-up of host fruits and vegetables upon which the fly may subsist.

Despite the continued enlargement of the known area in which infestations of the Mediterranean fruit fly exist, a self-evident note of optimism is growing among citrus growers and truck farmers of the state. Very probably this is due to the experience and observation of growers owning infested properties in what earlier were the heaviest infested areas. A great many of these growers had first-hand opportunities to study the fly and it's ravages right in their own properties. Numerous of these grow-

ers are ready and willing to testify to the efficiency of the methods being pursued in the effort to eradicate the fly. Where in their own properties and under their own observation a short time ago Mediterranean fruit flies are said to have been as thick as house flies under circumstances which house flies find attractive, these growers now are reporting to their friends that Mediterranean fruit flies are today extremely scarce and hard to locate.

Due to the habit of interchanging information among Florida citrus growers the cheerful news from the owners of these once heavily infested properties apparently has percolated through growing circles to considerable distances. Thus, even though no official statement has come from the fly eradication headquarters upon the subject of the effectiveness of the eradication work to date, there is a readily apparent better feeling in citrus growing circles and among the allied industries which serve the citrus producers.

Passage of another month probably will bring many new developments upon which will hinge much of vital importance to the world of citrus in Florida. Whether these developments will be favorable or unfavorable no one is sufficiently well posted to do other than guess. However, the growing feeling of optimism today is tingeing such guesses as are being made with optimism and confidence.

Just what Congress will do when it reconvenes in August is, of course, a subject of considerable conjecture. Anyone who will undertake to prophecy in advance any action by the national congress would be capable likewise of announcing in advance the verdict of a jury before its adjournment to the privacy of the jury room. However, the statements of administration leaders at Washington and of the Secretary of Agriculture generally are held by observant Floridians to signify a determined and speedy effort to give some compensatory relief to Florida growers suffering losses by reason of the quarantine restrictions.

GENTILE BROTHERS COMPANY JOINS CLEARING HOUSE

The most important development in Clearing House affairs during the past month aside from the actual transfer of the Presidency from Judge Allen E. Walker to J. A. Griffin is the announcement that Gentile Brothers Company of Orlando, extensive growers and shippers of Florida citrus fruits have signed up with the Clearing House both as growers and

shippers.

Gentile Brothers Company is credited with being the third largest citrus marketing organization in Florida. This company owns and operates 2,800 acres of citrus groves of its own in addition to the fruit handled for other growers. During the season just closed this organization is credited with the shipment of more than one million boxes of citrus fruit from its nine packing houses in various sections of the state.

The affiliation of Gentile Brothers Company with the Clearing House Association will add this vast tonnage to the amount of fruit handled under Clearing House control and will doubtless have a very material effect in influencing the action of other growers and shippers in their attitude towards the Clearing House.

Gentile Brothers Company was the one really extensive marketing organization in the state which remained outside the Clearing House last year and the addition of this concern at the beginning of the second year's business is looked upon by Clearing House officials and directors as a most significant indication of the present attitude of growers and shippers who have previously remained outside the Clearing House, towards the organization as at present constituted. Announcement of the decision of Gentile Brothers Company to affiliate with the Clearing House was received with expressions of appreciation and approval in all Clearing House circles.

BAXTER JOINS PAINTER-ER ORGANIZATION

C. G. Baxter, former manager of the Florida branch of the Virginia-Carolina Chemical Corporation, on June first became affiliated with the E. O. Painter Fertilizer Company, and at the June meeting was elected a director and vice-president of the company, a concern which has been manufacturing fertilizers in Florida for nearly fifty years.

Mr. Baxter is well known in Florida fertilizer and citrus circles. He has been connected with the Virginia-Carolina Company since 1918, and has been in charge of the Florida branch for the past five years.

The E. O. Painter Fertilizer Co., was first established at DeLand but was moved to Jacksonville in 1901, where the business has since been maintained and where an extensive plant has been built up.

The affiliation of Mr. Baxter with this pioneer fertilizer company should prove mutually beneficial, in carrying out the policies originated by Mr. Painter and carried out by his successors.

Citrus Fruit Production In Palestine, Spain and Sicily

Written for The Citrus Industry, By B. C. Skinner, President, Florida Citrus Machinery Co.

Last January and February I made a trip through the citrus producing countries of Palestine, Spain and Sicily with a view more particularly of observing the opportunities for use of fruit packing machinery in these countries, than to observe agricultural methods. The trip also included a visit to England which is the principal marketing point for the fruit produced in these countries.

The total production of citrus fruit in Palestine is 2,000,000 boxes of oranges only.

Only one variety of orange is produced, that being the "Shumati." This orange is rather large, oval shaped, highly colored, sweet and seedless. They do not produce the Valencia for the reason that the Mediterranean fruit fly prevents the marketing of any citrus fruits after the first of April. They make no attempt to fight or destroy the fruit fly but simply pick all their fruit during the months of November, December, January, February and March, before the fly becomes active. They get all of their fruit off the trees before the first of April.

The fruit are picked and placed in baskets which are carried on the heads of women and children to the packing houses which are only small sheds, about 20 feet square. A rug is placed on the floor and the fruit put on the rug. To keep the rug clean it is rolled up, and unrolled as it is filled with fruit, which are put on it about two feet deep.

Allowing the fruit to remain in this shed from three to four days permits it to wilt and soften, and allows time for decay to develop so that decayed fruit can be removed before packing.

Tests made by the Government showed that the holding of the fruit in the packing house more than one day was of no benefit but this first day holding was quite helpful in reducing decay. After one day it seems that the extra holding would be liable to cause more decay on account of the greater time to get to market.

The shipment of fruit from Palestine might be separated into four different grades. The first and best grade, as far as keeping qualities go, is shipped to England. The second grade, which really would be called a first grade by us, is good smooth,



B. C. Skinner

thin skinned fruit which are uninjured and go to Germany. They do not keep as well as the thick skinned fruit and, therefore, are not as popular in England as they are in Germany.

The third grade fruit which cannot be expected to keep well enough to ship to England are shipped to Roumania which is only five days by boat from Jaffa. The freight rate from Jaffa to Roumania, by water, is 25 cents.

The fourth grade of fruit comprises everything else which will stand shipment at all and this is shipped to Egypt by all rail, largely in bulk and must be transferred from the cars at Suez Canal because the cars of the Palestine R. R. are not permitted to go into Egypt. This makes a double handling of the fruit. But even with this extra expense the fruit bring a good price. The growers have been netting from \$1.75 to \$2.00 a box on the tree for their entire output, including the fruit going to England.

On account of the high color, generally bright appearance and excellent flavor and sweetness of the Jaffa orange it generally commands from two to four shillings more than the Spanish and American oranges sold in the English market.

Palestine growers are not troubled with scale, rust mite and red spider due to the extremely dry climate. They have absolutely no rainfall for eight months of the year during the growing season from April 1st to December 1st. Their rainy season is in the winter time. This, of course in-

volves irrigation which is accomplished largely with rather crude, home made apparatus. The introduction of electric power from the Jordan River is expected to lead to the installation of electric pumps for this irrigation. A few electric pumps are already in use.

The time of transportation from Palestine to England and Germany is about 4 days in the packing house, one day to one week in the port waiting for the ship, and eighteen days on the water.

No refrigerating facilities are available for shipment of Palestine fruit by water and it is, therefore, necessary to use extreme care in the handling of fruit to avoid injury and to pack them in strong boxes to avoid possibility of damage in transit.

In a few isolated cases tram roads are available in large groves to transport the fruit from the grove to the house. Transportation from the house to the shipping point is largely by camel back, eight boxes being strapped to each camel. In wet weather, on account of the danger of the camel slipping and falling, the load is reduced to six boxes. A string of six camels, led by one man will transport, therefore, 48 boxes.

Trucks and wagons are not very practical because the roads are not very good. They have one or two main highways which are excellent but the groves not located on these main highways are unable to use trucks or wagons.

The port of Jaffa, from which the fruit are shipped, is really only a roadstead and not a port. In bad weather the fruit must be held until the storm abates in order that the barges can come up close to the shore and get the boxes of fruit and transport them to the ships, which anchor about a half mile from shore. While we were there a very bad storm was raging and the fruit was held for one week before it could be loaded. The accumulation before the time of shipment was approximately 40,000 boxes.

It is estimated that the output of Palestine oranges will increase to about 5,000,000 boxes during the next five years. The distribution of fruit last year was about 150,000 boxes to Germany, the same amount

to Roumania and the balance to England, with a probable distribution of 250,000 to Germany during the coming winter season. A large percentage of this fruit will also go to Roumania because of the low freight rate. Possibly later much fruit will go to Czecho Slovakia, through Italy, provided Italy will permit the transportation of the fruit through her territory. Italy does not permit shipment now on account of the competition with her own fruit.

Palestine is planning the production of grapefruit but these grapefruit must also be picked before the first of April on account of the Mediterranean fruit fly and, therefore, should not be very strong competitors of Florida.

There is another reason why they will not be strong competitors of Florida and that is because, due to the fact that as their oranges are absolutely seedless, they are leaning toward the Marsh seedless grapefruit. They feel that a grapefruit with seeds is objectionable, they will therefore, find that their grapefruit are very sour during the months in which they must ship viz January, February and March.

I do not believe that they will ever go to our early seeded varieties for the reason that they are so educated to the absolutely seedless orange they will feel that the seeded variety will not be acceptable in the market. Therefore, the Florida grapefruit which is superior in sweetness and flavor will be more popular during these months of November, December, January, February and March than the Marsh seedless produced in Palestine and marketed during this period, as it will be sour in comparison to our early varieties.

The production of citrus fruit in Sicily comprises 8,000,000 boxes of oranges and 10,000,000 boxes of lemons.

The production of oranges in Sicily is about 95% blood oranges and 5% "whites", as they are called in Sicily. The principal market for these blood oranges is Germany, Austria, Hungary and Czecho Slovakia. Very few of the bloods go to England as they are not popular there.

Here again the Mediterranean fruit fly forces the fruit growers to pick all of their oranges during those months when the fly is inactive, viz November, December, January, February and March. The lemons are not susceptible to the fruit fly and, therefore, are produced over a longer period of time. Their importation is also allowed into the United States, which is not the case with the oranges.

The time of transportation of cit-

rus fruit from Sicily to Germany is about 4 days in the packing house and about one week on the railroad. The transportation is via all rail and the original box cars are transferred by car ferry from the Island of Sicily to the mainland of Italy.

The handling of Sicilian oranges is very similar to the handling of Palestine oranges, except that they are practically all shipped by rail and transportation is by cart and donkeys rather than by camel. The fruit in Sicily are attacked by scale so that they are cleaned by hand.

The production of oranges in Spain comprises 34,000,000 boxes, measured in our size of box. Here again the entire output of 34,000,000 boxes must be disposed of in the five months period from November to March inclusive because the fruit fly prevents the marketing of fruit after that date.

About 90% of this supply of Spanish oranges is shipped by boat from the port of Valencia. The remaining 10% is consumed in southern Spain and France. When fruit is shipped by water from Valencia it goes to England largely, some to Germany, Norway and Sweden, and to the ports of Spain.

One very interesting feature about the shipment of oranges is the fact that the Spanish oranges for the northern coast of Spain are first shipped to England by boat and then shipped back to Spain by boat, because the boat transportation is much cheaper in this way than the rail transportation directly across Spain on account of the high freight in that country.

The time of transportation of citrus fruit from Spain to England is about 4 days in the packing house, where they are kept in order that the fruit may wilt or soften, and one week on the water.

Fruit in Spain are packed in the same manner as in Palestine, in houses with a capacity of from 100 to 300 boxes per day. The boxes are rather large, containing about 40% more fruit than our boxes and they vary in size. Each size of fruit has a different size of box. Here again it is necessary to clean the fruit by hand. The installation of some crude machinery has been attempted but has not progressed very far. The packing, however, is extremely well done. Each box is very carefully put up and is tied with rope for handling, as well as being thoroughly nailed. The ends of the tops are planed by hand to make a good smooth finish for the cover, which is slightly longer than the sides to allow for the bulge.

The two center heads in this box are rounded so that the sides of the

top can be pulled down to make a closed box to prevent injury to the fruit when being handled, after being packed.

The fruit are transported to Valencia by rail or by truck and here transferred to the ship. Here again the fruit must be loaded on barges and transferred to the ships out in the middle of the harbor. They have a good harbor, however, and there is no delay on account of storms.

The fruit in Spain is smaller than the Palestine fruit, does not have as high a color and is not nearly as sweet. In fact would consider it more sour than the average Florida orange. They have more diseases in Spain also and the appearance of the fruit is not nearly as fine as that in Palestine. Production of the fruit is largely in small groves, very few large acreages being under one ownership.

The fact that the fruit from Palestine, Sicily and Spain must be moved prior to the first of April, on account of the Mediterranean fruit fly, should make it possible for Florida to come in with some of its Valencia fruit after this time. Of course, these fruit in Palestine shipped just prior to the first of April do not reach England until the first of May and are undoubtedly put into cold storage after arrival in England so they will be distributed over the month of May. But, with no supplies coming in, shipments of Florida fruit during April and May should find a market both in England and Germany.

The method of packing fruit in all these countries is very crude and involves heavy labor expense in spite of the low daily wage — about 50 cents per day.

26,453,695 BOXES MARKETED

L. M. Rhodes, commissioner of marketing, estimates that 26,453,695 boxes of citrus was marketed from Florida this year, exceeding the previous largest volume by 6,000,000 boxes. The estimate is only a preliminary one, based upon information gathered by Mr. Rhodes in a hurried trip about the state to gain data for the later official report.

Commissioner Rhodes estimates that this record crop brought about \$50,000,000 to the state. This has been exceeded several times, and by much smaller crops. The return per box in fact is a low one.

Orange shipments are listed at 33,552 carloads; grapefruit 26,759 cars and tangerines 2,515 cars. Mr. Rhodes estimates carload shipments totaled 22,617,360 boxes. The balance is accounted for in truck and canning, about equally divided between each.

The Preparation of Citrus Fruit For Export

By Lon A. Hawkins, Principal Physiologist, Bureau of Plant Industry, U. S. Department of Agriculture, at Meeting of Florida State Horticultural Society

I believe you will all subscribe to the principle that when the production of any crop markedly exceeds the amount that can be consumed during the time it can be kept in good condition, something must be done to increase the consumption, if the industry is to remain healthy. I am not going to attempt to discuss this feature but would like to make one point in this connection.

In 1920, the production of citrus fruit in this country was 91,289 carloads, according to the reports of the Bureau of Agricultural Economics. In the 1926 season, it had increased to 115,185 carloads, or about 26 per cent. According to the best statistics available, the increase in population in the United States during that time was about eleven million. In 1926 then, we were producing four oranges for each three produced in 1920, with an increase of only about ten per cent in the consumption factor. There is, undoubtedly, a possibility of increase in consumption of any food product up to a certain point but it is pretty well recognized that beyond that point, it is difficult to increase the consumption of any food among a given number of people. These facts have been recognized by the farsighted men of the citrus industry of both California and Florida and the necessity for broadening the market by increasing the consumption of citrus and by creating new markets among peoples other than those within the continental United States has been considered.

The export market seems to offer a possibility for relieving the situation and, with a commodity that has the carrying qualities of good citrus fruit, there seems to be no reason why the fruit cannot be exported profitably in good condition to Great Britain and continental Europe. The governing factor in profitably exporting citrus fruit is the placing on the market of good, attractive fruit, of desirable size and free from decay, at a price reasonable enough to stimulate increased consumption. There are two principal factors which must be taken into account if the fruit is to be placed on foreign markets in good condition.

(1) It is necessary that the fruit be in good condition when it is ship-

ped if it is to carry to market in good condition.

(2) The proper conditions for keeping the fruit must be furnished enroute for even the best fruit may break down in transit if not given the proper care.

Fruit that is affected with stem end rot, stem punctures, clipper cuts, thorn pricks, etc., can hardly be expected to stand up under the twelve or fourteen day voyage to European markets and then keep well under marketing conditions for two or three weeks. Careful handling of fruit is exceedingly important even for domestic shipments and cannot be too strongly emphasized for citrus when shipped on the long haul to export markets. The place to start careful handling is in the grove and the foreman should see that the picking boxes are free from rough edges, splinters, and protruding nails, and that no injured or long stemmed fruit gets into the picking boxes. Care should be exercised in the packing house, sorting out all injured or doubtful fruit. It would probably be advisable where groves are known to be infected with stem end rot or Melanose and the fruit to be particularly weak, to market it domestically rather than attempt the long haul to Europe. The fruit should be packed carefully and with a medium bulge.

A good, tight pack with medium bulge, in which no fruit is injured by the edges of the boxes, or creased by the slats, will carry better than a pack with 3 or 3½ inch bulge. The bulge on a fruit package is looked upon with much disfavor by the steamship officials as it interferes with their method of loading. The fruit may be called upon to withstand rougher handling on steamships than it does in freight cars and it is advisable to use somewhat heavier box shock and strap it at three points. The California people are using double shock or five-sixteenths shock, for their export boxes, strapping both ends and the middle, and report few broken packages.

It is exceedingly important that the proper conditions in transit be furnished if the fruit is to arrive on the market in good, saleable condition. One of the most important factors in ocean transportation, as well

as transport on land, is that the fruit be cooled to the proper temperature as quickly as possible and maintained at a good carrying temperature until it reaches market. To cool fruit quickly, it is almost necessary that it be cooled down before it goes into the holds of the ship, as the rate of cooling in a large mass of citrus fruit, as stacked in the ship's hold, is slow. Since this is one of the most important factors in the successful transportation of fruit long distances by water, it is worthy of discussion in some detail.

Oranges held at a temperature of 80°F. give off about 3,600 B.t.u. per ton in 24 hrs. B.t.u. means British thermal unit and is amount of heat necessary to raise the temperature of one pound of water one degree Fahrenheit. A ton of ice requires 288,000 B.t.u. to melt it. If, for example, we have in the hold of the ship 5,000 boxes of citrus fruit at an average of 90 pounds per box, it would mean 450,000 pounds of fruit, or 225 tons. It would give off about 800,000 B.t.u. per 24 hours at 80°F. and would require about 2½ tons refrigeration, or 2½ tons of melted ice to keep it at a temperature of 80°F. without any cooling down whatever. In addition, it would require about 60 tons of refrigeration to cool the fruit down to a good carrying temperature of 40°F. If the fruit is cooled down to 40°F. before it is placed in the hold, it will only give off about one-seventh the amount of heat it would give off at 80°F. per 24 hours and would require less than one-half ton of refrigeration to keep it at a temperature of 40°F. These figures are approximate, of course, and do not take into account the heat leakage through the sides of the ship. Citrus fruit packs very tightly in a box, especially when wrapped, and it is difficult to get the heat out of the box and when a large number of boxes are packed in a hold it is difficult to get the cold air through the hold so as to remove the heat.

The difficulty in removing the heat from the citrus fruit in the holds of vessels is illustrated in these figures which are derived from the results of transportation tests with citrus fruit from Porto Rico to New York.

The hold was about 54 feet across, the air entering at one side of the hold and being taken out at the other side, thus forming a circulation directly across the hold. Provision was made for reversing the direction of the circulation of air from port to starboard or vice versa. I am not going to attempt to give you a complete description of the steamship or method of refrigeration employed on this ship but merely want to use this as an example of the rapidity of cooling which you could expect on a well equipped modern refrigerated ship, the equipment designed especially for the fruit trade.

The average incoming air temperature, that is the cool air, ranges from about 42° to 54°F. that the average temperature of outgoing air ranges from about 56° to nearly 70°F. and the average fruit temperature is between these two extremes, ranging from 55° to 68°F. The average cooling down of the fruit in the hold is about 13 degrees in 6 days or a little over 2 degrees per day. It must be remembered that these are averages and that the fruit next to the sides of the ship was considerably colder than the fruit in the middle of the hold. It is to be noted that the sea water temperature held around 83°F. for about the first three days of the trip and then dropped off quickly when the ship left the Gulf Stream. This is about the temperature of sea water that will be experienced in going around Key West enroute for Europe until you get out of the Gulf Stream. The air temperatures also will be high being about the same as the water temperatures.

The rate of cooling down in another hold, in which the fruit was at an average temperature of 78°F. when loaded, and was cooled to a temperature of 53°F. in about 7 days; the average incoming air temperature ranging most of the time between 35° and 50°F. with about the same water and outside air temperatures.

These two figures are given to show the temperatures you can expect in ocean transportation from the West Coast of Florida enroute to England. At the ordinary rate of cooling in the ship's hold, where the fruit is stacked tight so it will carry well, several days will be required to bring the fruit down to the carrying temperature which is considered the most favorable for the keeping of oranges. It is practically impossible to get sufficient cold air through the hold full of oranges and around the fruit in the packages to remove the heat and cool the fruit to a good

carrying temperature in a reasonable length of time. The answer to the problem, we believe, is to cool the fruit before it is placed in the hold of the boat for shipment. With a precooling plant, it is possible to so stack the fruit and furnish cold air enough so that it can be cooled in about 48 hours. We have cooled Valencia oranges in the center of packed boxes to below 40°F. in a little over 36 hours. It is also more economical in the transportation of fruit to cool it to a good carrying temperature before it is loaded.

As was mentioned earlier in this paper, the temperature at which the fruit is held is especially important in the transportation of Florida citrus fruit, which is liable to be infected with stem end rot. It is therefore necessary that the fruit be cooled to 45°F. as soon as possible after it is packed if it is to carry in good condition for a considerable length of time. A temperature of 40°F. is usually considered the best for the transportation of oranges. It is well known that oranges cooled to too low a temperature are liable to spot or pit, that is, form sunken areas over the surface of the skin which later get brown and discolored and detract markedly from the appearance of the fruit. In some cases, the fruit may take on a bad flavor or storage flavor when held for some time in cold storage.

For the last year and one-half we have been carrying on experiments on the storage and keeping qualities of California oranges under various storage temperatures, using fruit from the different citrus regions in that state, in order to determine the effect of the different temperatures on the fruit grown in the different localities, in preparation for investigational work on the export of California citrus fruits. A trip from this section is about 28 days duration and we are therefore keeping the fruit in storage about a month, then holding it under general conditions for a couple of weeks longer to simulate the time the fruit would be in transit and on the market. These experiments are not yet completed but preliminary results indicate that the fruit should be cooled to 40°F. as quickly as possible. The decay at 50° was about twice as much as at 40°F. and at 32° there was about one-half as much decay as at 40°F. There was, however, a little more spotting and low temperature injury at 32° and until the experiments are carried a little further we consider temperatures around 40° advisable.

Tests were also made with fruit which had been colored in compari-

son with similar fruit which had not been put through the coloring rooms. In all cases there was more decay in the fruit which had been colored, the average percentage of decay being somewhat more than twice as high in the colored fruit. The high temperature to which the fruit is exposed in the coloring room apparently shortens the life of the fruit and makes it more susceptible to decay.

From our experience with Florida fruit, it would seem advisable to confine your export shipments to fruit which has not been colored.

The important points to be considered then in the preparation and shipping of your citrus fruits in export is to select good fruit, handle it carefully, and cool it quickly to 40°F. for which precooling is almost essential and hold it at that temperature enroute.

BURY CITRUS WASTE TO CONTROL FLIES

Gainesville, Fla.—Disposal of refuse from citrus packing houses has recently become a problem in certain sections of the state due to pomace flies breeding in this material when it is piled in or near groves. These flies are annoying and requests have come to J. R. Watson, entomologist of the Experiment Station, asking for control methods.

In cases of this kind Mr. Watson is recommending that the material be buried in the groves, where it will be useful as fertilizer and will also be out of the way. A trench may be plowed down the middle of the rows, filled with the refuse, and covered with one or two furrows, suggests Mr. Watson.

A possible treatment of such refuse piles to prevent flies from breeding in them is to apply chemicals such as calcium or sodium cyanide or carbon disulphide. Such treatments will have to be applied several times and would likely be more expensive than burying the material.

If waste citrus material is spread thinly over the land the pomace fly will be the only one that will breed in it, says Mr. Watson. If piled in large heaps the house fly will also breed in it to some extent. If superphosphate is added to these piles it will decrease the number of flies and at the same time add to its fertilizer value.

If Noah had debated as long as Congress over flood protection this terrestrial sphere would now be inhabited exclusively by fishes.

The Citrus Industry

with which is merged The Citrus Leaf

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GROVE CALENDAR FOR JULY

Timely Suggestions for Grove Work During the Present Month

Continue to cultivate
Continue cultivating nursery stock, and young non-bearing trees.
Fertilize nursery stock.
Replant spaces in newly set groves.
Prepare stocks for summer budding.
Spread beneficial fungi to control white-fly.

If trees are affected with foot rot, scrape soil away from affected roots and base of trees, cut away infected bark and paint with bordeaux, lime-sulphur or carbolineum.

Continue spraying pecans with 4-4-50 bordeaux mixture (plus 1 pound of lead arsenate) to control scab and chewing insects.

Start budding and top-working trees.

THE FLY SITUATION

During the past month much progress has been made in the clean up fight to eradicate the Mediterranean Fruit Fly. On the whole, the progress made seems to have been fairly sat-

isfactory. For the most part, according to federal and state authorities in control of the campaign for eradication, the growers and other citizens have given hearty and cordial cooperation in the work. Of course there have been isolated cases of refusal to aid the workers of the plant board, but such cases have been few and far between. Ignorance of the situation or carelessness in observing the regulations, rather than active opposition is credited with most of the failures to observe restrictions or co-operate with authorities.

Due to these cases of ignorance or carelessness, there have been a number of new infestations. For the most part these were in territory already within the zones of infestation, although a number of newly infested territories have widened the area of quarantined territory and extended the operations of the clean up squads.

On the other hand, it is stated that good progress has been made in the territories originally restricted. In such areas the fly has not only been held under control, but the actual numbers have been greatly reduced. In one or two instances, areas included in the early stages of the fight for eradication have been released from quarantine, due to the activity of the clean up officials and the co-operation of property owners. Like co-operation in other infested areas, it is pointed out, would do much toward bringing about like favorable results in such areas.

Meantime, congress has recessed without taking action on the proposed appropriation of ten million dollars to reimburse growers whose fruit has been or will be destroyed in the efforts to eradicate the fly. The department of agriculture has been inclined to insist that the State of Florida must meet the government appropriation with a similar appropriation of state funds. This the state is manifestly unable to do, and Florida growers, officers of the Clearing House and the state department of agriculture are exerting every influence to break down this view of the Secretary of Agriculture.

No one is in position at this time to state what territory or what percentage of citrus territory may be permitted to ship fruit next season. That will depend entirely upon the situation as it may develop during the next few months and the degree of progress which may be made in eradication before the shipping season opens next fall. Most observers are inclined to believe that the restrictions as to shipment will be less severe than was at first feared. It may be said with assurance, however, that no shipments will be permitted by the government from areas in which it is felt that danger of infestation may exist. Here lies the greatest incentive to co-operation with the officials in charge. The greater the extent of the territory released from quarantine and the sooner such territory is released, the greater will be the volume of Florida citrus fruits available for shipment next season.

While it is probably true that the Mediterranean Fruit Fly has never yet been wholly eradicated from any section which it has once invaded, it is equally true that never has such a determined and united fight been made against it

as is being made now in Florida. For this reason, we are encouraged to believe that the joint fight of state and nation will win the fight for Florida.

SHORT CROP IN PROSPECT

Crop reports from government sources for the month of June indicate that the citrus production of the United States for the coming season will not exceed 40,000,000 boxes including oranges, grapefruit, lemons, tangerines and limes. This compares with a production of approximately 65,000,000 boxes for season just past.

Florida, credited with a production of more than 26,000,000 boxes last season, is due under the government report, to produce no more than 15,000,000 boxes of citrus of all kinds during the coming season. Even this estimate of the federal crop experts is considered rather high in many quarters and is considered as the very maximum which may be looked for even under the most favorable of conditions during the remainder of the season.

California, with an estimated production of 38,000,000 boxes during the present season is not expected to produce more than 25,000,000 boxes of all citrus fruit next season. Of this total, about 4,000,000 boxes will be lemons.

Here we have then, an estimated total of 40,000,000 boxes from the two great citrus producing states as compared with nearly 65,000,000 boxes from the same sources last season. Texas and Arizona will add to this total as also will Porto Rico, production from these sources being mainly grapefruit, but from these three sources it is probable that less than one million boxes will be added to the production of Florida and California.

With prospects of such a materially reduced production and with a constantly growing demand, the outlook for higher prices is most encouraging. Of course, the purchasing power of the consuming public must be reckoned with, and also the quantity and quality of competitive fruits which is always a factor in determining the price of citrus fruits. However, with a reduction of one-third to two-fifths in the estimated production, other conditions must be unfavorable indeed if the grower of citrus fruits does not receive a much more satisfactory price for his fruit than prevailed during the past season.

PRESIDENT GRIFFIN NOW

Before this issue of The Citrus Industry reaches its readers, Mr. J. A. Griffin, recently elected president of the Florida Citrus Growers Clearing House Association by unanimous vote, will have taken his office and assumed the duties thereof.

Mr. Griffin is peculiarly fitted for this important position. An extensive grove owner himself, Mr. Griffin has from the outset been one of the leading advocates and promoters of the Clearing House idea. Due largely to his efforts the organization was first effected and he has since been active in its counsels. Having the confidence alike of growers and shippers, Mr. Griffin is perhaps the one man best qualified at this time to direct the activities of the organization

which he now heads.

The Citrus Industry congratulates the growers of the state on their wisdom and foresight in choosing Mr. Griffin for this important post.

LOUISIANA MANUFACTURERS ADOPT ANALYSES LIST

Fertilizer manufacturers doing business in Louisiana, in determining the list of analyses to be registered and sold in Louisiana during the next season, dropped from the present list one, and added 12 high analyses fertilizers.

This action was taken at a meeting with officials of the state department of agriculture and immigration of Louisiana and the fertilizer manufacturers in New Orleans recently.

The submission of the large number of new analyses for registration provoked much discussion from the chair and the floor, but they were accepted and listed.

A resolution thanking Commissioner Harry D. Wilson of the department of agriculture and immigration and his staff for the splendid service and cooperation rendered to the fertilizer manufacturers, was unanimously adopted.

Commissioner Wilson presided and J. H. Stallings, agronomist in charge of soil improvement work in the Southwest, for The National Fertilizer Association, served as secretary of the conference. Mr. Wilson called attention to the fact that beginning September 1, 1929, analyses will be stated in the order of nitrogen, phosphoric acid, and potash (NPK), instead of PNK as at present.

It was agreed that all fractions in materials be eliminated. The chair had previously made a similar ruling for complete fertilizers.

Texas citrus growers are now considering the advisability of adopting a uniform, standardized box for the shipment of their fruit. They cannot take such a step too soon. Standardization of grade and pack are two essentials of success which cannot be too strongly stressed.

Texas growers expect to ship between four and five thousand boxes of fruit during the coming season. The crop is said to be fairly heavy and growers have been giving their groves better care and attention than heretofore, not only increasing the yield but also the quality.

That portion of the Florida crop which is permitted to go to market, should bring the grower a handsome price. It will pay to make it just as attractive as possible. The best appearing fruit always brings the best price.

Weekly spraying of citrus trees in Zone 1 to eradicate the Mediterranean Fruit Fly is said to be having the effect also of driving out the mosquitoes. If this is true, it might be well to extend the spraying to non-infested zones.

The Mediterranean Fruit Fly is causing a lot of groves to be sprayed which never knew the touch of spray before.

While applying the spray, do not forget the other essentials of grove care.

HAWAII AGRICULTURE TO BE IMPROVED THROUGH EXTENSION WORK BY DEPT. OF AGR.

Unusual and interesting problems will distinguish the development of Hawaii's new program for cooperative extension work in agriculture and home economics, in the opinion of C. B. Smith, chief, Office of Cooperative Extension Work, United States Department of Agriculture. Doctor Smith has just returned from a visit to the Territory of Hawaii, where he went, in company with Dr. W. H. Evans, chief of the division of insular stations, Office of Experiment Stations to discuss plans for putting into operation the territory's cooperation extension service provided for by Act of Congress at the last session.

Some extension work has been carried on for several years by the Federal experiment station in Hawaii, which has been engaged in recultural problems for 27 years. An extension staff has also been maintained by the University of Hawaii for some time. The Congressional enactment of May, 1928, to extend the provisions of the Smith-Lever cooperative extension act to the Territory and the passage of the Capper-Ketcham bill make approximately \$48,000 available for immediate use in the organization and maintenance of a cooperative extension service in which all forces engaged in extension work on the islands may unite, provided the Territorial government raises from sources within the islands approximately \$18,000 as offset to a part of the Federal funds.

The islands are chiefly agricultural with sugar and pineapples constituting by far the major crops. These industries are well organized, with their own experiment stations, technical advisers, and community workers. It is the smaller farmers, growing truck crops, fruit, poultry, coffee, etc., that are in most need of extension work. There is strong competition from the mainland in production of vegetables and feed crops and there is much to be done on the islands in the way of improved methods of marketing. The relatively large numbers of foreign-language people in the islands, with the inherited methods of old-country agriculture, add to the difficulties of extension.

At present there are four part-time county agents in the islands, with one full-time club leader and one full-time marketing agent. It is expected that the Capper-Ketcham Act and supplementary legislation, combining the research work of the Univer-

THE CITRUS INDUSTRY

sity and Federal experiment station, will result in some expansion of club work and home demonstration work and strengthening of county agricultural agent work through full-time employees in the islands.

SPECIALISTS APPOINTED TO STUDY FRUIT FLY IN FLORIDA

The Secretary of Agriculture announces the appointment of certain specialists to study and report on the fruit fly in Florida. He points out that he believes his department specialists are as competent to pass judgment on the problem as any others obtainable, but in view of the enormous expenditures now clearly shown to be needed to continue the campaign of eradication, and the nation-wide concern in the problem, he feels that he should have the benefit of the judgment of specialists outside of the Department of Agriculture best able to render an opinion on the possibility of a successful conclusion of the campaign. For this purpose the Secretary announces the appointment of the following: Vernon Kellogg, Permanent Secretary, National Research Council, Washington, D. C.; H. A. Morgan, President, University of Tennessee; T. P. Cooper, Dean, College of Agriculture, Director of Extension Work, Lexington, Kentucky; Victor R. Gardner, Director, State Experiment Station and Professor of Horticulture, State College, East Lansing, Michigan; T. P. Headlee, Professor of Entomology, Rutgers College, New Brunswick, State Entomologist of New Jersey and Entomologist of State Experiment Station; G. A. Dean, Head, Department of Entomology, State Agricultural College, and Entomologist, State Experiment Station, Manhattan, Kansas; and H. J. Quayle, Professor of Entomology, University of California, and Entomologist of Citrus Experiment Station, Riverside.

These specialists met in Washington, Monday, July 8. They will proceed to Florida to make an intensive study of the situation as a basis for a report on the possibility of eradication and for any recommendations they may wish to make as to future policy.

FOREST SERVICE WARNS AGAINST ROSY PICTURES ADVERTISED BY RANGER CORRESPONDENCE SCHOOLS

The forest ranger's position is not

July, 1929

a "play-time" job, as a number of advertising correspondence schools picture it, says the Forest Service, United States Department of Agriculture.

Activities of several correspondence schools which purport to prepare young men for ranger jobs and practically guarantee Government employment on the National Forests upon completion of the course have come to the attention of the Forest Service, and a large number of letters asking about ranger positions which come by every mail to Forest Service headquarters are believed to be the result of extensive advertising on the part of some of these schools.

Forest Service officials doubt the value of correspondence schools under ordinary circumstances in furnishing proper preparation for ranger positions. It is pointed out that in order to pass the examination for ranger, applicants must show in a mental test that they have adequate educational qualifications, and the law requires that rangers shall be selected, when practicable, from qualified citizens of the State in which the work lies. In any event, no institution is authorized to guarantee employment after its course is completed.

The following excerpts from a letter, written in answer to an inquiry from the advertising manager of a midwestern journal concerning these schools, expresses the point of view of the Forest Service regarding the advertisements of such institutions:

"Whether a study course purporting to prepare men for Forest Service examinations is a legitimate enterprise necessarily depends upon the circumstances of the particular case. A number of advertisements which have come to our attention contain misleading if not intentionally untruthful statements concerning the nature and requirements of the forest ranger position.

"We do not know what facilities these correspondence schools have for giving the necessary instructions, but we have had to say to inquirers about the courses that while the equivalent of graduation from a four-year high school course is ordinarily necessary if a man is to obtain a passing mark in the ranger examination held by the Civil Service Commission, the knowledge that a man must have to answer the practical questions in the examination comes mostly from actual experience in the woods and on the range. For these reasons we have never felt that a man can expect to be prepared adequately for the examination by taking a correspondence course.

BLUE GOOSE NEWS

Monthly News of American Fruit Growers Inc.



Edited by The Growers Service Department

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ERADICATION PROGRESSING

AT A REMARKABLE RATE

Careful observation reveals remarkable effectiveness of the fly eradication forces in their program of action against the fruit fly, in the opinion of R. B. Woolfolk, vice-president of the American Fruit Growers Inc.

"The results obtained to date in combatting the fly are almost amazingly successful according to my own observation and that of many of our employees who have been in close contact with the work," said Mr. Woolfolk. "The plan of campaign seems to have been well laid and it is being followed out most effectively.

"The speed with which a great organization was created was little less than marvelous. From a standing start the fly eradication forces in six weeks numbered approximately 5,000 men who had been trained and equipped and were actively in the field. Not only so but even while this organizing was in progress thousands of acres were cleaned of host fruits by the first workers enlisted, and application of the bait-spray to infested properties had begun.

"We have had a remarkable exhibition of rapid organizing and equipping. One must remember that the field forces today are using equipment which required nearly one hundred freight cars to transport; and that they are effectively distributing their effort over a large area.

"Near Orlando and elsewhere I have had opportunity for observing operations at firsthand, our own organization has had infested properties, and it is my conclusion that to date the work against the fly has been wonderfully effective.

"It is impossible to estimate what was the fly population in some infested properties in the heavily infested area. When, however, 2238 pupae by count were dug from beneath a single tree with a garden trowel it is evident that the flies

CITRA FRUIT CO. IS

TO BUILD NEW HOUSE

Construction will begin shortly upon a new packing house for the Citra Fruit Co., at Citra in Marion County, to replace the packing house of that company which was destroyed by fire last season.

The new packing house is expected to be erected about a mile from the site of the former house; and will be thoroughly modern in every respect with installation of the latest in improved packing machinery.

H. L. Borland and W. T. DuPree, the principals of the Citra Fruit Co., have over a period of years built up a wonderful reputation for fruit packed under their Mocking Bird brand, which has won place among the foremost brands going to market under the Blue Goose trademark.

The Citra Fruit Co., has a large acreage of its own, having won renown for its particularly fine pineapple oranges, and in addition handles the production of a number of leading growers in the vicinity of Citra.

Decision to build a new and modern packing house at once to replace the old one is evidence of continued faith in the stability of the citrus business in that section; and in the quality of Marion county citrus fruits which enables them to hold place in the markets under all conditions.

were more than thick enough. Today, in what a few weeks ago were heavily infested groves, scarcely a fly is to be found. That shows, as nothing else can, how effective the eradication measures have been.

"It seems the work has gone far enough to warrant believing that as far as commercial groves or truck properties are concerned the fly cannot only be controlled but eradicated. The big problem in connection with eradication at the present stage seems to lie in host fruits upon yard properties in those towns and cities within or adjacent to the fruit and

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PRESIDENT CRUTCHFIELD

OPTIMISTIC ON OUTLOOK

Conditions in Florida are better than an outsider expects to find them, according to J. S. Crutchfield, Pittsburgh, president of the American Fruit Growers Inc., who is now in Florida upon a visit of inspection. The morale of Florida citizens, particularly of those engaged in citrus and vegetable production, is wonderfully good in the face of the quarantine restrictions and other handicaps, he says.

On one score the optimism of Florida people is, in Mr. Crutchfield's opinion, fully justified. He states that prior to coming to Florida he instituted careful inquiry through the more than two hundred sales branches of the American Fruit Growers Inc., in the United States to ascertain the feeling of the public with respect to Florida citrus fruits. This inquiry failed to reveal one single complaint from retailers or consumers concerning fruit damaged by the fruit fly. When coupled with the high prices now being paid in certain principal markets for Florida grapefruit coming out of cold storage, this is held to argue much for a favorable reception by the consuming public of Florida oranges and grapefruit when next season's crop begins to move. The general public in the north, if ever it really took interest in the insect infestation, has been quick to forget, in his opinion.

"From the standpoint of our holdings and interest in Florida, it is most comforting to find the federal government determined to eradicate the fruit fly," he said. "With the government so strongly committed to eradication, and such a great amount of work already accomplished, it seems the only possible bar to complete eradication of the fly can come from failure of the people of Florida to give cooperation. There seems small danger of such failure to cooperate from what I have heard and

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BLUE GOOSE NEWS

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EDITORIAL ROOMS
502 Yowell-Drew Building
ORLANDO, FLORIDA



ERADICATION PROGRESSING AT A REMARKABLE RATE

Continued from page 1

vegetable growing areas.

"Public sentiment, however, seems to have shifted and is now thoroughly in favor of the eradication work. The percentage of objectors becomes smaller each day, and that portion of the public not interested in either citrus or vegetable production is giving better and better cooperation right along. That is the most hopeful sign at the time this is written.

"Some are pessimistic because of the large area affected, but a map of the infestations shows them generally to have been found along the main highways, or lateral highways in more or less general way. During recent years there has been a remarkable increase in the bulk citrus fruit business handled out of Florida by automobile trucks. Peddlers have come into the picture and hundreds during winter months have made a regular business of handling such bulk fruit. They come down from Mississippi, Alabama, Georgia and South Carolina, and even from Kentucky and Tennessee, bringing chickens, eggs, country butter, sweet potatoes and other things to be purchased cheaply in the territories from which they come and peddling these in Florida. Then they load up in the citrus producing areas with oranges and grapefruit which they carry back to peddle in the sections from which they came.

"It is a peddler habit invariably to discard quickly any decaying fruit, to avoid its transmitting decay to

other fruit in the load. One infestation occurring at a filling station some distance north of Orlando where there were only a few trees, makes me believe that could this be traced it would be found that one of these peddler trucks stopping for gasoline was responsible for the spread of the fly. A peddler walking around in his truck and casually noting a decaying fruit or two very likely would automatically toss the fruit out of the truck at any place along the roadside, with no thought for anything other than getting rid of the decaying oranges or grapefruit.

"It is estimated that perhaps a million and one-half boxes of oranges and grapefruit, mostly cull fruit went out of Florida citrus counties via the peddler route during the 1928-29 shipping season. It is perfectly logical to see how the constant stream of automobile trucks which carried this vast lot of oranges and grapefruit could have been responsible for spreading fly infestation when the known habit of peddlers in discarding unsound fruit is taken into consideration.

"To my mind the movement of so much cull fruit in bulk by truck very well accounts for the spread of infestations northward. Tourists and winter residents purchasing fruit from roadside stands in the infested area very probably account in good part for the spread of infestation southward. However, it begins to look at this writing as if the fly eradication forces had pretty well ascertained the spread of the pest in the state by this time. This, together with the undeniable effectiveness of the bait-spray where host fruits have been removed, seems to reduce the problem to one of cleaning up thoroughly for some distance around all infestations and letting the bait-spray in the infested properties do its work.

"The next thirty to sixty days should witness developments. Whether they are favorable or unfavorable apparently will depend largely upon the thoroughness with which clean-up work has been accomplished, and the cooperation in other ways given to the fly eradication forces by Florida citizens."

"Residents in the infested zones have every incentive to cooperate to the fullest possible extent with the eradication effort, to the end that their particular localities may come out from under the quarantine restrictions at the earliest possible moment. Zone 2 residents should co-

operate to the best of their ability in the effort to prevent possibility of the zone 1 designation being applied to their vicinities. Residents in what is now zone 3 are justified in using extreme measures in the clean-up of hosts of every sort in order to assure retaining their zone 3 status, and to guard against coming into either zone 1 or zone 2 through infestations being found in any of the various hosts in their localities."

PRESIDENT CRUTCHFIELD OPTIMISTIC ON OUTLOOK

Continued from page 1

observed since arriving. In fact, I am strongly impressed by the high degree of cooperation which the people of Florida are giving to the fly eradication effort. Of course, there are a few persons who feel compelled to hang back and to register complaints; but apparently they constitute a very small and insignificant part of Florida's population. Equally of course, there has been and will be a certain amount of sensationalism. That is to be expected. Sensationalism is impossible to repress; and is bound to explode upon occasion. In this instance it was to be expected under the circumstances.

"Florida's danger, if there be a danger in the present situation, lies in the possibility of its people being satisfied with anything short of complete eradication of the Mediterranean fly from the state. Only one hundred per cent eradication can safeguard properly the great citrus and vegetable producing industries which are the foundation of Florida's business prosperity. Complete eradication is the vital need, and with the large progress which already has been made right now is the time to accomplish it.

"Any program of complete eradication must involve hardships, and many difficulties for individuals; but the government quarantine officers are thoroughly experienced in their work, and are eminently fair. They can be depended upon not to impose a single unnecessary hardship upon growers or business interests. That thought must be borne in mind by Floridians. Those handling the eradication work cannot always pause to explain their actions or give their reasons, any more than commanding officers of an army in battle can be expected to stop and explain their plans to civilians. Time is all precious under present circumstances; and the people of Florida can great-

Clearing House

THE CLEARING HOUSE

By R. B. Woolfolk

Vice President, American Fruit Growers Inc., Orlando, Florida

I cannot too strongly urge every citrus grower of the state of Florida to lend his loyal support to the Florida Citrus Growers Clearing House Association at this time as it is the only organization in the state equipped to handle the many and complex problems that will be presented the ensuing year. Never will there be more need for an intensive advertising campaign in order to overcome prejudices occasioned by recent quarantine regulations and also establish markets for the coming crop. We must continue our standardization program. It is only through the Clearing House that this can be accomplished. On account of the zoning regulations it will be necessary, in order to secure the high dollar for the grower, to give the question of distribution and market control greater attention than ever. Only through the Clearing House can this be done and those who have not sent in their signed contracts to the Clearing House should do so immediately.

ly aid those in charge of the eradication forces by cooperating first and later obtaining information and explanations through committees which will consume a minimum of the valuable time of those directing this all important work. It has been my privilege to observe closely somewhat similar eradication work in Texas and elsewhere; and I have been deeply impressed with the effectiveness of this branch of the United States Department of Agriculture; and I feel sure that in Dr. Wilmon Newell Florida has a field chief most competent, with the added advantages which come of thorough and understanding knowledge of actual Florida conditions.

"The present program of eradication has been carefully worked out; and I am advised by our people in Florida who have been observing it carefully, that the work to date is proving surprisingly effective. It seems self-evident that the people of Florida should support it wholeheartedly until it is carried to a successful conclusion.

"This is a time when all factors in Florida should submerge individual interests and stand together in face

of the emergency. In our humble way the organization of the American Fruit Growers Inc. is endeavoring to do its part; and we are ready and willing to contribute our best in cooperation with any and all of those other organizations and individuals who likewise are striving to aid.

"My career in the fruit and vegetable business began in Florida thirty-eight years ago, when I worked in the packing house of Nelson & Co. at Oviedo. I saw Florida pass through the vicissitudes of the Big Freeze and emerge triumphant; and I have seen Florida at various times since contend with serious handicaps and not only survive but constantly grow stronger and more important. I am wholly confident, and my associates in the American Fruit Growers Inc. are equally confident, that Florida not only will triumphantly survive the ravages of this fruit fly; but that Florida will set an example for quickly and completely conquering an insect pest which shall be inspiring to other agricultural and horticultural areas wherever located."

Home demonstration work teaches rural women to earn money in their

spare time. During March a club woman in Dade County made 100 hat blocks and sold them to other club women who were making hats at 75 cents each.

THE GENERATION

Baloon pants, plaid socks,
Ties in colors gay;
Short coats, no hats—
Sheiks of gay today!
Silk hose, rouge and paint,
Powder and knee-dresses,
Soda and a movie show—
Make today's Sheikesses.

"What kind of cigars does you all smoke, Rastus?"

"Ah smokes Robinson Crusoes."

"Robinson Crusoes? I never heard of them cigars."

"Castaways, man, castaways."

A club camp in Marion County for 4-H club girls who cannot attend other camps is being planned by Miss Tillie Roesel, home agent. Summer camps offer a splendid vacation for rural boys and girls, and give an opportunity for instruction besides.

UNIFORMLY



THE BEST

Better Facilities

Constant enlargement of facilities to keep pace with steadily increasing volume has marked the operations of this organization since its beginning.

Such enlargement of marketing and handling facilities continues now in order to provide for assured future increases in volume of products handled.

With so wide a scope of operations there is not only definite assurance to growers of continued effective selling service, but the ever-growing success of this nationwide service provides constantly better facilities, irrespective of conditions in any single producing area which it may serve.

American Fruit Growers Inc.

Orlando, Florida

DEPENDABLE



QUALITY

Cost Finding In The Citrus Industry

By E. C. Mason, Mammoth Groves, Lake Wales, Fla.

With the rapid increase in production of citrus fruits, both in California and Florida, and a consequent declining price level, it becomes imperative that the producers of citrus fruit add to their purely horticultural activities the adjuncts which modern business organization has found to be invaluable in increasing efficiency.

Among these adjuncts, such as personnel management, proper financial structure, traffic management, scientific production and cost finding, the latter seems of utmost importance. It is certainly as essential for a grower of citrus fruits to know the cost of production of a box of fruit as it is for the manufacturer of paper boxes to know his cost.

It would further seem that with the lowered price level which is inevitable with increased production, it is equally essential that the producer of citrus fruit know not only the cost of production of a unit but also be intimately acquainted with the cost of each operation or process which contributes to the finished product, that is, the box of fruit produced. In fact, this last knowledge is probably the more essential. To know the total cost of production on an acre of citrus grove or a box of citrus fruit is valuable knowledge and determines whether or not the operation for the year has been a success. But to know the cost of each successive operation entering into this cost is of far more value since the more refined the knowledge obtained the more apt the producer is to obtain such control over his operations as is necessary to make any changes or modifications in his procedure which will lower his costs without impairing his production.

Further, a serious study of the cost of each process will result in the most economical arrangement of equipment from the standpoint of the individual whose costs are being studied. An intelligent use of process costs should enable the producer to carry the lowest investment in equipment consistent with economical production. A study of process costs will often solve many of the problems arising from the seasonal nature of citrus production. For example, the relative expense of operation by animal power or mechan-

ical power within their respective limitations, can be readily seen. The burden created by idle time of both labor and equipment can be studied, particularly with relation to seasonal operations.

It is not the purpose of this paper to in any way be a text for the construction of a cost accounting system. The difference in the scale of operations of the individuals and corporations engaged in the industry would make it impossible to establish any general set up for a uniform classification of accounts. For any operator, whether large or small, there is always the danger that the cost of ascertaining the costs will in itself be excessive. The simplest method of cost finding would be an accurate record of all elements of cost pertaining to a certain area with the proviso that it be certain that all cost elements are recognized. Accounts must be carefully kept and all expense of a period definitely allocated at that period. Too often in the record of costs important items are omitted. Depreciation of equipment must be recognized. Rates of depreciation are apt to be too low rather than too high. Often the operator who devotes his entire time to production may fail to consider his time as an expense of production. Bills for work or materials pertaining to the season under consideration may not be allocated to the proper period because they may not be paid until after that period has passed. Supplies of materials on hand may be so large as to distort costs if they are all applied to one period rather than inventoried for application against future periods. Small tools may be considered as an asset although totally expended in one season's operations. It is simple to state that all material, labor and expense must be recorded against the operations in a period and yet without great care there are apt to be many errors and omissions. It is essential that any system designed should tie up with the general bookkeeping system in such a way as to give conclusive proof that all items of expense incurred are included in the consideration of the costs. Many operators have tried to keep a record of costs of operations which are more or less independent of the general book-

keeping system. It is next to impossible to have such a record accurately reflect costs as most of the cost items will resolve themselves into guesses as to the cost of certain indirect items or these may be omitted entirely.

In general, the elements involved in ascertaining costs may be grouped under direct charges and indirect charges. No matter what the unit under consideration may be, whether it is the acre of citrus grove, or the operations which go into the cost of operating that acre, these different kinds of charges must be recognized and too often are not. It is generally simple to charge the material, such as fertilizer or spray material used to the operation. It is generally easy to charge the actual labor involved in an operation directly to that operation. But even then it is essential that it be known that the total purchases of direct material and direct labor be applied to the operations of a given period. This can only be done by a proper tie up between the cost records and the general books. In horticultural operation undue emphasis seems to be given to direct costs, such as material and labor. Too often many of the indirect expenses applying to the various operations are ignored. Consequently, the unit cost is distorted and valueless. As an example, there is presented the following simple classification of production accounts as used by one large grove operator in Polk County:

42. Production.

- 421. Direct Labor.
- 422. Materials & Supplies Used.
- 423. Equipment Maintenance & Depreciation—Dept.
- 4231. Spraying & Dusting.
- 4232. Mule Drawn Equipment.
- 4233. Tractor Drawn Equipment.
- 4234. Tractors.
- 4235. Small Tools.
- 424. Stable Expense.
- 4241. Feed Used.
- 4242. Veterinary.
- 4243. Depreciation Live Stock.
- 4244. Stable Labor.
- 4245. Depreciation Building.
- 425. Truck Expense.
- 4251. Gas & Oil Used.
- 4252. Depreciation.
- 4253. Repairs.

- 4254. Insurance.
- 426. Indirect Grove Expense.
- 4261. Superintendence.
- 4262. General Grove Labor.
- 4263. Freight In.
- 4264. Depreciation Buildings.
- 4265. Building Repairs.
- 4266. Maintenance & Depreciation—Gen. Equipment.
- 429. Machine Shop.
- 4291. Direct Labor.
- 4292. Parts Used.
- 4293. General Shop Labor.
- 4294. Supplies Used.
- 4295. Depreciation Tools.
- 4296. Depreciation Buildings.

It will be seen here that for two accounts involving direct charges, such as direct labor and supplies used, there are 26 accounts involving indirect charges which must in some way reach the unit cost whether it be the cost per box produced or the cost per acre operated. Where a simple system of ascertaining the total cost and dividing it by the number of boxes produced is operated it would be sufficient to take the total of the accounts involved above as the total cost of production. If the cost finding is to be further refined by applying costs to each operation performed, it is necessary to charge the direct labor and direct materials and supplies to each operation and furthermore on some equitable basis

apply to these same operations or processes all of the indirect items. The manner of distribution of these indirect charges to individual operations is one involving a consideration of each item. One large operator makes distribution as follows:

Equipment, maintenance and depreciation, on the basis of number of equipment hours used on each operation for each class of equipment.

Stable expense on basis of mule hours used on each operation.

Truck expense on the basis of truck hours used on each operation.

Indirect grove expense on the basis of ratio obtaining between total indirect grove expense as compared with total direct labor and materials used in a given period.

Machine shop expense on the basis of accumulating all machine shop work on machine shop orders which in turn are charged to the specific operation where the work done is applied to department expense accounts which in turn are applied to operations or processes.

To any one considering the subject it should be of interest to know that in one large development the to-

tal of departmental and indirect expenses for twelve months was thirty percent of the entire cost of operation.

No system could, of course, be complete, and no costs be accurate without full record of indirect items as well as the direct items. A typical system, for a large operator where some light into the cost of different processes involved in the production cost is desired, would be:

1. Some such classification of accounts in the general system of books as is listed above.

2. The accumulation of these costs from the detailed records, such as payrolls, requisitions, for the direct items and some system of distribution as above described, for the indirect items.

3. A detailed card ledger maintained for each operation.

In that manner an accurate and consistent cost for each operation performed on any constant area can be had. Examples of the detailed information which is consistently af-

Continued on page 24

Garden club members at Pahokee are making hay while the sun shines, reports Miss Bernice Lyle, assistant home agent. The girls are canning all of their surplus vegetables.

"FRIEND" SPRAYERS TO THE RESCUE

THREE CAR LOADS "FRIEND" OIL BATH SAND PROOF HIGH PRESSURE TRACTOR TRAILOR SPRAYERS RUSHED BY EXPRESS TO ORLANDO TO FIGHT MEDITERRANEAN FRUIT FLY.



One Type of "Friend" Tractor Tractor Sprayer

SPECIAL FEATURES:

Large capacity tank, mounted low between large wide tire wheels; direct propeller agitator; large capacity, quadruplex sand proof high pressure pump, having quick accessible valves, no pockets, quick adjustable packing—plunger displacement type—all parts working submersed in DEEP OIL BATH.

Many other Features characteristically "Friend". Be sure to see them.

We make many sizes and styles.

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Gardening

In The

Lower South

By Harold H. Hume

Written especially for Florida and other Gulf Coast gardeners, this book deals with flowers, trees, lawns, hedges, bulbs, vegetables, home orchards, etc. It is the only book published which deals so exclusively and thoroughly with Florida gardening problems Chapters on sprays, fertilizers, frost protection, garden plans, etc. 454 pages, beautifully illustrated.

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The Citrus Industry

Tampa, Florida

TEXIDE

A petroleum base insecticide
designed especially to meet
the needs of the citrus grower.

TEXIDE prevents re-infestation over long periods of time through complete pest control when the operator thoroughly covers the tree with the spray.

Correspondence is invited.



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Texaco Petroleum Products
District Office, Jacksonville, Florida



Texaco Agents located in citrus centers:

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Lakeland	Arcadia	Ocala	Tampa	Ft. Pierce	Plant City	Leesburg	Palatka	
Tarpon Springs	Titusville	DeLand	Bartow	Homestead	Bradenton	Vero Beach	Miami	

"Please Say You Saw It In The Citrus Industry"

THE GROWERS' OWN PAGE

NEED ORGANIZED CONTROL

Tampa, Florida, June 19, 1929.
Mr. S. L. Frisbie, Editor,
The Citrus Industry,
Tampa, Florida.
Dear Mr. Frisbie:

Permit me to thank you for the good support your publication, The Citrus Industry, is giving to the Florida Citrus Growers' Clearing House Association. While I appreciate the kind and complimentary things you say about me personally, no one man can do this job. It requires the co-ordinated efforts of the growers and shippers to make a real success of it. There are certain things which a grower must do for himself, but there are certain other things which growers may do for the benefit of the whole industry only by group and joint action. It is the purpose of the growers' association to do for the grower, by group and joint action, those things which the individual cannot do for himself. Among them are:

1. The standardization of grade and pack, with a uniform package going into the markets;
2. A national advertising program on behalf of Florida citrus;
3. The control of distribution and orderly marketing;
4. Legislation and supervision, and the enforcement of sane and sensible green fruit laws;
5. Combatting and eradicating the Mediterranean fruit fly, and while that is going on, the working out of fair and just regulations with the Plant Quarantine and Control Administration of the United States Government at Washington, and the State Plant Board of Florida, trying to keep markets open for Florida producers of all fruits which may not otherwise be infested.

With good wishes, I am,

Very sincerely yours,

J. A. GRIFFIN,
President Florida Citrus Growers Clearing House Association.

SOURCE OF INFESTATION

Editor The Citrus Industry:

Just a few words on the Medfly situation. Isn't it about time that some of us got awake to the fact that we can't possibly hope to get rid of, and keep rid of the fly just so long as we keep importing lemons from Italy, and grapes from

This department is devoted to the growers, for their use in giving expression to their views and a discussion of growers' problems. Any grower is welcome to make use of this department for the discussion of topics of interest. The only requirements are that the articles must be on some subject of general interest, must be reasonably short and must be free from personalities. The editor assumes no responsibility for views expressed, nor does publication imply endorsement of the conclusions presented.

Spain, both proven to be hosts of the fly, and that cold storage won't kill the embryo fly unless you actually freeze the fruit, and may not then

Such being the proven case, wouldn't it be far better to shut those two sources of infestation out of Florida entirely, if not out of the United States? Can we reasonably hope to get clear of this pest, and keep on importing those two host fruits into Florida by the ship load?

I don't know how it may appear to others, but the Rancher of Rancho-Glen-Haven knows it simply can't be done.

So let us shut out the source of infestation, then clean up the pest, root and branch, and see that no more host fruits are imported from fly infested countries. This seems the only practical way to rid us of the pest, and to keep clear of it afterwards.

Sincerely,

The Rancher,

(Known to some as B. M. Hampton)

(Officials of the State Plant Board have already disposed of the question of danger on infestation from the importation of Italian lemons. As prepared for export, according to officials of the State Plant Board, it would me impossible for Italian lemons to carry fly infestations. As we understand it, neither Italian lemons nor Spanish grapes are imported into Florida by the ship load. What fruit of this character finds its way to Florida comes by way of New York where it undergoes inspection before being passed for entry. Apparently neither federal nor state authorities consider these fruits sources of infestation.)—Editor.

GRAPEFRUIT GROWING IN FAVOR IN UNITED KINGDOM

The increasing popularity of American grapefruit in the United Kingdom is revealed in a study of international trade in citrus fruits

which has just been issued by the Commerce Department. United States shipments of grapefruit to the British market, the survey shows, increased from 15,000 boxes in 1922 to 421,000 boxes in 1927, which was 120,000 boxes more than went to Canada, hitherto our most important customer.

Discussing the world movement in citrus fruits, the survey discloses that an annual average of 29,000,000 boxes of oranges, 6,000,000 boxes of lemons, and 700,000 boxes of grapefruit entered international trade during the five-year period, 1922-1926. Spain was the largest exporter of oranges, Italy of lemons, and the United States of grapefruit. During this five-year period American fruit accounted for 48 per cent of the grapefruit exports, 7 per cent of the oranges, and 4 per cent of the lemon.

Over 40 per cent of the world's oranges shipments are absorbed by the United Kingdom, as are 22 per cent of its lemons. Germany and France are the next largest buyers of oranges, while Germany and the United States follow the United Kingdom as importers of lemons.

About 116 million boxes of oranges is the estimated annual production of those countries which export to an appreciable extent. Spain accounts for about 32 per cent of this output, while the United States is second with about 30 per cent. China, Italy, and Japan produce something less than 10 per cent each.



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Reasoner Brothers'
ROYAL PALM NURSERIES
Oneco, Florida

July, 1929

Total commercial production of lemons is estimated at 18 million boxes, of which Italy accounts for 55 per cent and the United States 33 per cent. The United States produces about 93 per cent of the total world production of grapefruit, which amounts to approximately 10 million boxes a year.

CITRUS GROWERS KEEP TREE RECORDS TO IM- PROVE THEIR ORCHARDS

Many citrus producers in California are now keeping records of the production of each tree in their orchards, a practice introduced to the industry in 1909 by A. D. Shamel of the United States Department of Agriculture.

These individual tree records enable the growers to locate good orange, lemon and grapefruit trees from which to take bud wood for top-working poor trees. They also indicate the trees that need individual care, and furnish reliable data on which to base conclusions concerning the results of orchard practices.

The results obtained in bud-selection experiments during the last 18 years indicate that by top-working the inferior trees with buds from trees that have consistently produced a good yield and quality of fruit, the inferior or "drone" trees of such varieties as Washington Navel and Valencia oranges can be made productive and profitable.

In Farmers' Bulletin No. 794-F, Citrus-Fruit Improvement, recently issued by the United States Department of Agriculture, Mr. Shamel describes the methods of keeping and using tree-performance records and comments on the results obtained by those who have followed the practice over a period of years. A copy of the bulletin may be obtained by writing to the United States Department of Agriculture, Washington, D. C.

PRODUCE AGENCY CASE WON BY GOVERNMENT

Restitution to shippers by produce dealers following the discovery of fraud under the produce agency act was held recently by Judge R. R. Nevin in the Federal District Court of Cincinnati as not operating to relieve offenders from prosecution and punishment under the Act.

The case was that of a produce company which reported to the shipper that the net proceeds of a car, less freight, commission, etc. were an

THE CITRUS INDUSTRY

amount that subsequent investigation by the Bureau of Agricultural Economics, United States Department of Agriculture, disclosed to be considerably less than the actual proceeds. When confronted with the results of this investigation the produce company made full restitution to the shipper, but the evidence of fraud was so conclusive that the department submitted the case with the supporting documents to the Department of Justice for prosecution.

The presentment of the United States District Attorney charged that the defendant, knowingly and with intent to defraud, made false statements to the shipper both as to the amount of the freight charges and as to the proceeds of the sale. The defendant plead guilty to a charge of violating the produce agency act and was sentenced April 15 to pay a fine of \$100 for a first offense.

TARIFF PROVISIONS ON FRUITS AND VEGETABLES

House Bill 2667, the Tariff Bill of the present congress presents provisions generally felt to be adequate, and fair to American producers in giving protection against the low labor and production costs in producing areas outside the United States. Some of the rates of duty follow:

Oranges	1 cent per lb.
Grapefruit	1 1/2 " " "
Lemons	2 " " "
Tomatoes	3 " " "
Peppers	3 " " "
Eggplant	3 " " "
Cucumbers	3 " " "
Squash	2 " " "

All other vegetables not otherwise specified will pay duty at the rate of fifty per cent ad valorem.

There are now more home demonstration agents employed in the state than ever before, according to Miss Flavia Gleason, state home demonstration agent.

Twenty-one

Jackson County club girls have recently held a number of demonstrations in 'Better baking for school lunches'.

**The Proven
Summer Spray**

For one-application control of Red Scale with a wide margin of safety for fruit and foliage, spray your trees with VOLCK. Experience has proven that it combines both safety and effectiveness. Makes your trees clean and keeps them clean.

Talk with your nearest dealer

**CALIFORNIA SPRAY-
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European Plan, Fireproof 300 Rooms With Baths

THE CENTER OF TAMPA

"Please Say You Saw It In The Citrus Industry"

IMPRESSIONS

By The Impressionist

Talking with Fred Stebler, the Californian who pioneered the production of citrus packing machinery, on his trip here in June he told us that twenty-foot soaking tanks are the usual thing in California packing houses. No doubt thorough soaking of fruit before it reaches the washer brushes promotes clean fruit when ready for packing. Yet the longest soaking tank in a Florida packing house to our knowledge is sixteen feet; and quite a number of Florida packing houses have no soaking tanks at all.

Speaking of Californians, and we have met a lot of them recently, one of the most interesting is John Steven McGroarty, for thirty years chief editorial writer of the Los Angeles Times. His trip to Florida in June to investigate the fruit fly situation was his first one here. A week in the citrus belt however, made a real Florida booster out of him, as witness the following dispatch sent by him from Orlando appearing in the Times of June 18th:

"Traveling through Florida to secure firsthand information in regard to the Mediterranean fruit fly situation, one is inspired by the courageous and even cheerful attitude of the people of this state. Suffering a series of economic catastrophes during the past few years in which real estate booms and hurricanes played a conspicuous and tragic part, it would seem that now with the invasion of the fruit fly pest that the people of Florida would be about ready to throw up their hands in sheer discouragement.

"But as one travels about among the fruit and vegetable growers of the state the people are found to be far from depressed or discouraged. They seem to have an abiding faith in the great potentialities of Florida, and not without reason. And while it is true, that like California, fruit growing is the state's largest industry and that the invasion of the fruit fly is apt to paralyze that industry for the time being, Florida has other means of livelihood that will carry it through. It would be a mistake for anyone to have the idea that Florida is down and out.

"As far as the menace of the fruit fly is concerned, there is an ever growing faith among the people here that the pest will be utterly annihilated and banished from Florida during the present year. The activities of the State Plant Board as directed and supported by the United States Department of Agriculture strengthens this belief. It

is a fight to the finish, and no fooling. Every trick that science has in its bag, and every effort of brain and muscle that the citizens of Florida are possessed of have been united to the end that victory shall be assured.

"As one travels about the state between Pensacola and Jacksonville through the northern tier of coun-

Ripen, color, blanch with ETHYLENE

Increases profits—Saves time—Reduces losses



Inexpensive

Easy to use

All these advantages

1. Greatly reduces time required for ripening.
2. Prevents waste from rots and fungous growths.
3. Improves flavor.
4. Produces better color by more complete action on the green pigments.
5. Ripening and coloring go on simultaneously.
6. Makes possible the marketing of heretofore unknown tropical fruits.
7. Ripens and colors fruits and vegetables that mature late in the season.
8. Is inexpensive and easily used. Simple apparatus and little experience required.
9. Can be applied equally well to a few crates or a whole carload of fruit or vegetables.
10. Is neither injurious nor dangerous. Widely used. A proved success.

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Unit of Union Carbide **UCC** and Carbon Corporation

"Please Say You Saw It In The Citrus Industry"

July, 1929

ties, and from Jacksonville south to Tampa, this thorough effort is constantly in evidence. One is stopped every few miles by soldiers of the National Guard for inspection. Armies of men are destroying the wild fruits of the woods and swamps and jungles. Not a single bet is being overlooked. No chances are being taken. Nothing is being guessed at.

"Florida has gone through some tough times in its day, and is now going through what is perhaps the toughest time of all. But there is no thought of weakening, and, least of all, no thought of defeat."

Said John Steven McGroarty upon his arrival here proved to be a close personal friend of R. B. Woolfolk, their friendship having extended over a quarter of a century. That wasn't exactly harmful to Florida's interests.

We happened to be present recently at a small gathering of citrus growers and heard something said that rather warmed a tired and sometimes cynical heart. That was when a grower formerly of the "progressive wing," remarked he had turned around in his views and now was forced to consider that the late Dr. J. H. Ross had been a truly great man, and that the "progressive" opposition to him within the cooperative ranks had been productive of many costly mistakes. We have never attempted to conceal our belief that Dr. Ross was a very great man, far bigger than many of the national celebrities with whom we have had contact. Every day of our several years of intimate relationship with John Howard Ross strengthened that belief. Therefore it is comforting now to find that some who once failed to appreciate his qualities have come to see him as he really was. As Doctor Ross used to say: "Time is a great solvent."

Orlandoans have voted to go right ahead with their annual exposition or fair, which has been a mid-winter feature for many years. That's the spirit.

Some Florida oranges selling in the northern markets out of cold storage did not bring much; but the highly satisfactory prices brought by good grapefruit recently impress us as demonstrating that no prejudice against Florida citrus fruits exists in the mind of the consuming public. And we'd do well to let sleeping dogs lie.

THE CITRUS INDUSTRY

We have been asked to start a subscription list to buy a hat for J. M. (Doc) Slattery of the Exchange Supply Co. We will do our part as soon as someone arises who will agree to make Doc wear the hat the subscribers buy.

From a couple of our old college chums who are Washington newspaper correspondents of many years standing we derive the conclusion that this compensation for the growers is about as well assured as anything of the sort can be in advance, in spite of the fact that Washington's angle upon the Florida situation is quite different from what Floridians might imagine it to be. As to precisely how much and how

soon, however, information is not definite.

A Californian whom we met recently upon his first trip to Florida was getting a good laugh out of a bottle of citric acid crystals given him by a business associate upon his departure. "If you have to drink any of the water down there that isn't boiled, be sure to use these," the friend had said in his parting advice.

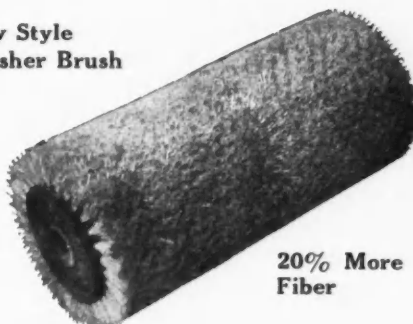
Miss Bertha Henry, home agent of Okaloosa County, has recently prepared a booklet on the uses of blueberries. A copy of this booklet is sent out with every case of the canned product from a local cannery.

Twenty-three

SPECIAL PRICES ON WASHER

BRUSHES

New Style
Washer Brush

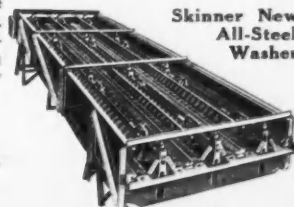


20% More
Fiber

You will save real money by ordering brush replacements early. Check over what you will need and let us quote you special low prices on both old style bar brushes and new style solid block cylindrical washer brush. The new brush is a true cylinder of even balance and smooth operation. It has 20% more fiber in it than the old style bar brush. Fruit hugs the surface of the brush full length of runway. Rub boards can be set close and a certain amount of pressure applied if the fruit is unusually dirty. To give you the advantage of the greater efficiency of the new style brush we are making a special "trade-in" proposition to convert your old style bar brushes into the new style solid block cylindrical brush for just what it would cost you for a new set of bar brushes.

The greater amount of fiber in the new brush, the continuous scrubbing done all the time the fruit is in the washer and the adjustments possible result in very much cleaner fruit and a very much better looking pack.

If your old washer has served its time we invite you to visit any of the new houses built last year and watch the new all-steel Skinner washer perform. You will find a new standard of washing efficiency has been set up which influences the packed box in a very noticeable way.



Skinner New
All-Steel
Washer

Florida Citrus Machinery Co.

DUNEDIN, FLORIDA

"Please Say You Saw It In The Citrus Industry"

Twenty-four

COST FINDING IN THE CITRUS INDUSTRY

Continued from page 18
forded by such a system would be as follows:

MAINTENANCE COST—BLOCK 1
Period August 31, 1927 to August 31, 1928.
143.2 Acres—Age 8½ years 8-31-28
50% Oranges—50% Grapefruit

Operation	Number of Times Performed	Cost Per Acre	Total Cost
Fertilizing	3	31.423	\$4,499.77
Oil spray	2	9.32	1,834.62
Lime Sulphur			
Spray & Dust	2	6.714	961.44
Discing	3½	3.152	451.37
Hoeing	1	3.25	465.40
Plowing—Tree			
Rows one way	1	1.72	246.30
Acme Harrow	1	.672	96.23
Special			
Tree Care	*	1.364	195.32
		\$57.615	\$8,250.32

DISTRIBUTION OF COST PER ACRE THROUGH YEAR

September	\$ 5.145
October	12.89
November	4.06
December	3.12
January	.91
February	8.95
March	3.59
April	2.18
May	11.82
June	
July	4.91
August	
	\$ 57.615

By filing the above cards by blocks, the said blocks being constant in acreage, at the end of the fiscal year, as well as during that year, one is able to get a simple and accurate statement of total costs for the operation of any block, which is easily reduced to cost per acre or cost per box of fruit produced, if the record of fruit picked is kept to correspond with the same area. At the same time the record is of such a nature that the cost of each operation engaged in can be ascertained by reference to the original cost card. As an example of an accumulation of such costs for a twelve months period, there are submitted two tables of costs accumulated from such cost cards operated for a period of one year on two blocks of one operation, in the Ridge Section of Polk County, Florida.

MAINTENANCE COST—BLOCK 8
Period August 31, 1927 to August 31, 1928.
67 Acres—Age 7½ Years 8-31-28
50% Oranges—50% Grapefruit

Fertilizing	3	\$34.23	\$2,293.41
Oil Spray	1	5.44	364.48
Lime Sulphur			
Spray & Dust	3	9.10	609.70
Discing	4	3.346	224.18
Hoeing	1	3.59	240.53
Plowing—			
one way	1	2.18	146.60
Acme Harrow	2	1.166	78.12
Special Care	1	.501	33.57
		\$59.553	\$3,990.05

DISTRIBUTION OF COST PER ACRE THROUGH YEAR

September	\$ 6.50
October	
November	11.503

THE CITRUS INDUSTRY

December	3.39
January	3.12
February	.97
March	11.05
April	2.02
May	2.90
June	16.28
July	
August	2.82
	\$59.553

Comparisons are odious and it is hardly the purpose of this paper to enter into discussion of comparative costs of production in various sections of the State. It is readily recognized that what may be a high cost in one section is a low cost in another. In the industry which is so subject to the effect of natural agents such as rainfall, winds, and cold, costs of various operations located in different sections of Florida naturally will vary greatly, not to men-

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tion the fact that costs will vary greatly in accordance with the age of the trees being considered, and the type of soil on which they are located. It is felt that when the cost system is properly designed, insight into the operation offered by the study of the cost of unit operation and the relative efficiency of the various departments as judged by comparisons is of far more importance than comparisons of costs of different operating growers. At the same time let me present the suggestion that individual and corporate operators of comparatively large acreages could unquestionably gain a great deal through a uniform cost accounting system. Particularly would this be true if it be done by

Today's Pessimism

..... is the Thief of

Tomorrow's Opportunities

THE serious problems which confront the Citrus Growers of Florida have given rise to much pessimism as regards their final solution, but they can and will be solved!

Pessimism fosters Neglect, and Nature's penalty for neglect of your grove is fewer boxes of fruit per tree and lower prices for poorer grades.

Experienced growers know that this penalty is levied not only against this year's crop, but against next year's and the year after.

The present situation points to a shortage of citrus fruit on the market and promises the almost inevitable result of higher prices—quality fruit sells first, brings top prices.

Watchful care, correct feeding and proper cultivation of your grove will enable you to take advantage of tomorrow's opportunities which are bound to come with the solution of today's problems.

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any number of operators within a district where climate and general soil conditions are somewhat the same. Competitive citrus areas, such as California, seem to have made good progress in the matter of ascertaining costs. For the past few years there has been published each year in the California Citrograph, a computation of cost records kept on individual properties. While not refined to the extent of affording detailed information on the individual operations, the records kept have afforded a very interesting insight on the cost of production in that area. Would it not be of great benefit if some agency in this state would substantially collect from each grower figures on cost of production in a uniform manner and publish annually the collective information so secured?

EUROPEAN MARKETS

FOR CITRUS FRUITS

In the following report dated March 23, received in the Foreign Service of the Bureau of Agricultural Economics, Mr. Edwin Smith, Fruit Specialist of the Bureau in London, discusses the European market for American citrus fruit with special reference to the potential market for grapefruit in Continental Europe.

There has been a general recession in prices for oranges during the past week (March 16 to 23) although Spanish oranges arrived in smaller quantities and the best quality made some advance in prices. Many Spanish oranges in a weak condition sold for lower prices, whereas the best California Navels sold for from 50 cents to 75 cents per box below last week's figure. It is said that people are tired of oranges, since they have had it dinned into their ears since December that they should eat large quantities of oranges to prevent influenza and there is no doubt that consumption has been heavy during the past three months.

Another factor influencing prices has been the increased movement of California oranges from New York since the price of oranges from Spain and Jaffa reached a point to make trans-shipment profitable. California oranges are to be seen in all British markets and this illustrates how fluid supplies are when profits are possible. On the other hand, very few Florida oranges have been purchased for shipment to European markets, so that these are not to be seen.

Pick More DOLLARS

*from your trees
and from your gardens*

LARGER crops of crisp, firm, flavory vegetables—fruit that is juicier and of better shipping quality—when you fertilize with Chilean Nitrate of Soda. Crops will mature earlier and bring a higher market price.

The value of Chilean Nitrate has been conclusively proved by thousands of prosperous Florida farmers. It has been the standard nitrogen fertilizer used by successful growers for over 50 years, on all types of farms and on all kinds of crops. Its nitrogen is immediately available, starting to work as soon as it is applied.

Chilean Nitrate is the world's only natural nitrate fertilizer. It is not synthetic.

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Our new 44-page book, "How to Use Chilean Nitrate of Soda," tells how to fertilize truck, citrus and all other crops. Ask for book No. 1, or tear out this ad and mail with your name and address.

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In writing please refer to ad No. 25A

EXCHANGE TO INVESTIGATE PROPOSED MERGER PLAN

The proposal for the merger or combination of the Florida Citrus Exchange and the Florida United Growers is being considered by a committee appointed at the suggestion of the Waverly Citrus Growers Association asking that the Exchange investigate a proposed merger program between the two organizations.

The committee which was named at a meeting of the Exchange directors in Tampa on July 5th consists of Homer Needles, Cocoa, John A. Snively, Winter Haven, and S. F. Ruth, Lake Wales.

The purpose of the proposed merger or combination as outlined by the supporters of the Waverly suggestion is to strengthen the two organizations by uniting the extensive tonnage and elaborate sales organization of the Exchange with the extensive control of capital enjoyed by the Florida United Growers. It is pointed out by supporters of the plan that Florida growers at this time stand in need of financial aid to a greater extent than ever before and that the Florida United Growers through its financial affiliations in New York is in position to supply such financial assistance, or at least to secure it, and that a combination of some sort with the Exchange would make such funds available to Exchange members.

It is stated that no direct proposal has been made but that tentative plans have been suggested and have been given a certain degree of consideration by the leaders of both organizations.

Until the committee appointed at the Tampa meeting has made its investigation and report no further steps in the proposed merger are to be expected.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of August 24, 1912, of The Citrus Industry Published monthly at Tampa, Florida, for April 1, 1929.

State of Florida,
County of Hillsborough.

Before me, a Notary Public, in and for the state and county aforesaid, personally appeared S. L. Frisbie, who, having been duly sworn according to law, deposes and says that he is the editor of The Citrus Industry and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1.—That the names and addresses of the publisher, editor, managing editor and business manager are:

Editor, S. L. Frisbie, Tampa, Fla.

Business Manager, S. L. Frisbie, Tampa, Fla.

2.—That the owners are:

THE CITRUS INDUSTRY

Associated Publications Corporation, Tampa, Fla.

S. L. Frisbie, Tampa, Fla.

S. Lloyd Frisbie, Tampa, Fla.

B. L. Gable, Asheville, N. C.

F. L. Skelly, Orlando, Fla.

Frank Kay Anderson, Altamonte Springs, Fla.

B. W. Skinner, Dunedin, Fla.

F. P. Wall, Mansfield, Ohio.

3.—That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are:

Bankers Mortgage Co., Orlando, Fla.

Sworn to and subscribed before me this 12th day of April, 1929.

PAYE ELDRIDGE,

Notary Public.

CLASSIFIED

Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

REAL ESTATE

FOR SALE—By owner, eighty acres, two-year-old best looking grove at reasonable price. Howey-in-the-Hills. For further information write "A. Z." P. O. Box 1261, Orlando, Florida.

WILL EXCHANGE West Texas cattle ranch for unimproved or improved land in Florida. What have you? Give price and full particulars. T. E. Bartlett, 3410 McKinley Ave., El Paso, Texas.

FOR SALE—Pineapple land in winterless Florida. \$15 an acre. Almont Ake, Venus, Fla.

WANT TO SELL HALF INTEREST IN FIFTEEN ACRE SATSUMA BEARING GROVE ON HIGHWAY NEAR PANAMA CITY. ROBT. LAMBERT, OWNER. FOUNTAIN, FLA.

SATSUMA BUDWOOD from Bearing Trees. Hills Fruit Farm, Panama City, Fla.

WANT to hear from owner having farm for sale, give particulars and lowest price. John J. Black, Box 93, Chippewa Falls, Wisconsin.

MISCELLANEOUS

WANTED

Packing House Manager—An experienced and capable manager for Citrus Packing House. Give references, experience and salary expected in first letter. Address H. Drawer KK, Vero Beach, Fla.

FOR SALE: Splendid bearing citrus grove in Lee County, far removed from Fruit Fly infestation. Will produce 20,000 boxes coming season. If you want this grove address P. O. Box 295, Fort Myers, Fla.

RUNNER peanuts—Spanish peanuts Early speckled - Osceola - White Chinese and Bunch Velvet Beans. All varieties peas and Soybeans. Large or small lots. H. M. Franklin, Tennille, Georgia.

HIGH BLOOD PRESSURE easily, inexpensively overcome, without drugs. Send address. Dr. J. B. Stokes, Mohawk, Fla.

WHITE WYANDOTT Cockerels, regal strain—the best in the country, direct from

"Please Say You Saw It In The Citrus Industry"

July, 1929

Martin pens. Utility and show birds \$5.00 each; also eggs for hatching \$5.00 per 15. W. A. King, Gen. Del., St. Petersburg, Fla.

WANTED COMPLETE LINE OF CITRUS GROWERS' SUPPLIES

A well known reputable firm of national scope, marketing certain materials required by citrus growers, is extending its line of merchandise to cover complete requirements of its customers.

If you have something excellent to merchandise—fertilizer, orchard heaters, pest control material or equipment, or any similar product for wide distribution—I can tell you whom you should see.

Address: J. T. Pierson, 503 South Union Drive, Los Angeles, Calif.

BEGGARWEED SEED. Place your order for Beggarweed seed now and be assured of delivery. Write for special prices. Wm. G. Ranney, Box 297, Monticello, Fla.

PUREBRED PULLETS FOR SALE—White Leghorns and Anconas ready to ship. Barred Rocks and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

LAREDO SOY BEANS, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

FARMER AGENTS: Make \$25.00 weekly selling Comet Sprayers. Profitable winter employment. You take orders. We deliver and collect. Commissions weekly. Established 55 years. Particulars free. Kusler Co., Box C-18, Johnstown, Ohio.

FOR SALE—All varieties bananas and citrus trees. D. A. Nigels, Palm Harbor, Fla.

FOR SALE—Dairy and stable manure, car lots. Link & Bagley, Box 464, Tampa, Fla.

AVOCADOS - SEED - Grafted. Reliable bearers only. John B. Beach, West Palm Beach, Florida.

BABY CHICKS: Send no money, shipped C. O. D., pay mail man when delivered. Leghorns \$14.00 per 100; reds, orpingtons, minorcas \$16.00; mixed \$13.00; live delivery, postpaid. Florida Baby Chickery, Lakeland, Florida.

ROUGH LEMON Seedlings in any quantity, special summer sale, very attractive prices. A. E. Nichols, Box 262W, Tampa, Fla.

CITRUS EXPERT and landscape gardener desires superintendency of larger grove or estate. Address, P. O. Box 2072, Sarasota, Florida.

WANTED—To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

Orders - Inquiries



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